CLAIMS

1. A method for smelting sulfidic copper concentrates, in which method copper sulfide bearing material is smelted in a smelting furnace (1) for creating blister copper and slag, **characterized** in that at least part (3) of the feed of the smelting furnace (1) is copper sulfide (3) bearing material obtained by means of sulfide bearing material (2) that is fed to the hydrometallurgic further processing (12,19) of slag (11) created in the smelting process.

2. A method according to claim 1, **characterized** in that the slag (11) created in the smelting process is treated in an at least two-step hydrometallurgic (12,19) further processing treatment.

3. A method according to claim 1 or 2, **characterized** in that the slag (11) is leached (12) for turning the copper contained in the slag into soluble form, and the copper bearing solution (16) is conducted to a conversion step (19) for turning the soluble copper into copper sulfide (3) form by sulfide bearing material.

4. A method according to claim 1, 2 or 3, **characterized** in that the slag (11) obtained from smelting is silicate bearing.

5. A method according to claim 1, 2 or 3, **characterized** in that the slag (11) obtained from smelting is ferrite bearing.

6. A method according to any of the preceding claims, **characterized** in that the leaching (12) of the slag is carried out as atmospheric leaching.

7. A method according to claim 6, **characterized** in that the leaching (12) of the slag is carried out at the temperature of 50 – 105° C.

8. A method according to any of the preceding claims, **characterized** in that the leaching (12) of the slag is carried out in an autoclave.

9. A method according to any of the preceding claims, **characterized** in that the conversion (19) of the copper, leached from the slag, into sulfide is carried out at the temperature of 90 – 200° C.

10. A method according to claim 9, **characterized** in that the conversion (19) of the copper, leached from the slag, into sulfide is carried out at the temperature of 150 – 190° C.

11. A method according to any of the preceding claims, **characterized** in that the leaching step (12) and the conversion step (19) are controlled by measuring and adjusting the surface state and reactions of the essential dissolving and precipitating phases, on the basis of mineral-specific potentials, impedance values and solution content values measured by mineral based electrodes.